

**WHAT IS CLAIMED IS:**

- Sub d17
1. A coin separator and rejector apparatus, comprising:
- (a) a coin separator and rejector body having one or more downwardly inclined coin races formed therein, said rejector body having an upstream portion and a downstream portion, and said coin races further comprising a first wall and a second wall, at least a portion of one of said walls in pivotal connection with said rejector body;
- (b) one or more sensors located in said upstream portion of said rejector body;
- (c) an actuator in mechanical connection said pivotal portion of said race wall; and
- (d) a processor in electrical communication with said sensors and with said actuator.
2. The apparatus of Claim 1 further comprising a second sensor located in said downstream portion of said rejector body.
3. The apparatus of Claim 1 wherein said actuator is an electric motor.
4. The apparatus of Claim 1 wherein said actuator is a solenoid.
5. The apparatus of Claim 4 wherein said solenoid is a latching solenoid.
6. The apparatus of Claim 4 wherein said solenoid is a wound cap solenoid.
7. The apparatus of Claim 1 wherein at least one of said sensors is an induction coil.
8. The apparatus of Claim 1 wherein at least one of said sensors is a Hall effect sensor.
9. The apparatus of Claim 1 wherein at least one of said sensors is a photoelectric sensor.
10. The apparatus of Claim 9 wherein at least one of said sensors is an LED sensor.
11. The apparatus of Claim 9 wherein at least one of said sensors is an IR sensor.
12. The apparatus of Claim 1 further comprising a light coin spring detector positioned in the downstream portion of said rejector body.
- Sub a27
13. A coin separator and rejector apparatus, comprising:
- (a) a coin separator and rejector body having one or more downwardly inclined coin races formed therein, said rejector body having an upstream portion and a downstream portion, and said coin races further comprising a first wall and a second wall, at least a portion of one of said walls in pivotal connection with said rejector body;

- (b) one or more sensors located in said upstream portion of said rejector body;
- (c) one or more sensors located in said downstream portion of said rejector body.
- (d) an actuator in mechanical connection said pivotal portion of said race wall; and
- (e) a processor in electrical communication with said sensors and with said actuator.

5 14. The apparatus of Claim 13 wherein said actuator is an electric motor.

15. The apparatus of Claim 13 wherein said actuator is a solenoid.

16. The apparatus of Claim 15 wherein said solenoid is a latching solenoid.

17. The apparatus of Claim 15 wherein said solenoid is a wound cap solenoid.

18. The apparatus of Claim 13 wherein at least one of said sensors is an induction coil.

10 19. The apparatus of Claim 13 wherein at least one of said sensors is a Hall effect sensor.

20. The apparatus of Claim 13 wherein at least one of said sensors is a photoelectric sensor.

21. The apparatus of Claim 20 wherein at least one of said sensors is an LED sensor.

22. The apparatus of Claim 20 wherein at least one of said sensors is an IR sensor.

15 23. The apparatus of Claim 13 further comprising a light coin spring detector positioned between said one or more sensors located in said upstream portion of said rejector body and said one or more sensors located in said downstream portion of said rejector body.

24. A method of rejecting jammed coins from a coin separator and rejector, comprising

20 (a) programming a processor with a pre-selected minimum transit time and a pre-selected maximum transit time for a coin to transit a coin sensor located in a coin path in a coin separator and rejector;

(b) sensing the transit time of a coin transiting a coin sensor located in a coin path of a coin separator and rejector;

25 (c) sending a signal from said sensor to said processor;

(d) calculating the transit time of said coin transiting said coin sensor;

(e) comparing the transit time to said pre-selected minimum and maximum transit times; and

30 (f) sending a signal from said processor to a coin rejection actuator if said coin transit time fails to fall within said pre-selected transit times.

25. A method of rejecting jammed coins from a coin separator and rejector, comprising

- (a) establishing an electronic signature for a coin with a sensor;
- (b) storing said electronic signature in a processor;
- (c) sensing a coin with a sensor located in a coin path in a coin separator and rejector;
- 5 (d) sending a signal from said sensor to said processor;
- (e) comparing said signal from said sensor with said electronic signature stored in said processor; and
- (f) sending a signal from said processor to a coin rejection actuator if said signal fails to match said electronic signature.

10 26. A method of rejecting jammed coins from a coin separator and rejector, comprising:

- (a) detecting a coin in an upstream portion of a coin separator and rejector with a first sensor and sending a signal to a processor;
- (b) waiting a predetermined time period for the detection of a signal by said processor from a second sensor positioned in a downstream portion of said coin separator and rejector; and
- 15 (c) sending a signal from said processor to a coin rejection actuator in the absence of a signal from said second sensor after said predetermined time period.